99' FEST-WEST '89
San Diego
February
18 - 19
PLAN AHEAD
BE THERE!

Topics

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LA 99er COMPUTER GROUP

VOL. 7 NO. 8 LOS ANGLELES, CA AUG., 1986 Newsletter

FROM DOWN UNDER,
TO
UP THERE.
P.I.G.

This front page is being writen by a Pommie ILLEGITIMATE from Oz so put another Shrimp on the barbie Terrie.

I have come here to have a vacation of three weeks and look what happens to me, that vivacious red head of yours has got me working.

On the day of arrival I was raced along to swap meet and I know I haven't seen any thing like it before. The number of people selling computers, hardware, and software, was unbelivable, I know it emptied my wallet faster than my wife can. I also met a gaggle of TIer's, such as Tom Freeman, and his son Jonathon, Fred Moore, Chick De Marti. I was stunned as they turned out to be ordinary folks, not Gods sitting on a throne, with thousands of disciples at their feet as we picture them in Oz.

On the following wednesday Terrie took me down to San Deigo so that I could visit the North County User Group where every body is so laid back I thought I was at an English public shcool. However their casualness disguises a generosity that has to be seen to be belived. Webster Prescott and his charming wife put us up for the night, as I wanted to visit Ocean Beach, I was stationed there during W.W.2. Have you ever gone back to a place you once knew way back, let me tell you something it shrinks all the places you remember are no larger than dolls houses, But it was good to relive memories.

Now for some good news, or bad news for the members of LA.99ers our Melbourne group invite you all to become members of our goup, this will be fully explained to you all at the meeting on wednesday.

One of the things that has disapointed me is the fraction fighting that seems to go on out here. When will you realise that this is family and we all have to stick to gether to survive, to forgive is far more satisfing than berating.

NOTE NEW ADDRESS PLEASE
L.A. 99ers COMPUTER GROUP P.O. BOX 67A79 LOS ANGELES, CA. 90067

BUGSPRAY

FastLoad into the 9640 by Tom Freeman

In the June 1988 issue of TopIcs I wrote an article on Fast-loading modules into the 9640 Geneve computer, using Peter Hoddie's Gram Packer among other utilities. You may remember that the main reason that GP could not be used to load Extended Basic into the 9640 was that bank switching of the >6000 bank in ROM is handled differently in the 9640 - more specifically, a CRU bit has to be turned off or on. This was patched into the GP program.

I have since discovered that I left out one additional step - it never seemed to make a difference until I tried to use Peter's new modified Assembler (it is the trusty old TI assembler, but outputs error messages to printer, and gives you the actual line!). Then I discovered that I had failed to "protect" the >6000 and >7000 spaces, and I quickly entered never-never land. What follows is a quick way to fix this. It is especially quick because the CRU bits that protect these banks are the next two after the bank switching one!

Go back to the third sector of the saved GP file (in GK format). The bytes you typed in here ended with 020C 1EF8 1E00 C300 0460 2B2A. This translated to:

```
LI   R12,>1EF8
SBO  0
MOV  R0,R12
B    @>2B2A
```

What you need to do is move the last 6 bytes (C300 0460 2B2A) 4 bytes to the right (there is still unused "text" here) and insert after the 1E00 the following 4 bytes: 1E01 1E02. This turns the next two CRU bits on (refer to the Geneve manual to see the list of CRU bits). Be sure to save the new file.

And while we are on the subjec of Peter's assembler, for it to work properly it needs to use the >6000 space. So what do we do if that area is protected?? If you use it you will find that you are using TI's assembler, not Peter's modified one, because it is still protected! Answer: reverse the above CRU bits. You can use the following source code and assemble it:

```
START  LI   12,>1EF8
       SBO  0
       SBO  1
       SBO  2
       RT
       END  START
```

or alternatively, type in following object code directly and save it in DIS/FIX 80 format.

```
0000C       A0000B020CB1EF8B1D00B1D01B1D02B045B800000F
20000800000F
:
```

(There are eight spaces after the 0000C on the first line). This file loads with option #3 Load and Run. Because it autostarts, you will get the cursor back as if another file should be loaded, but in fact the program will have already run, so you can now press F9 to return to the main menu, and if you return now to the cartridge loader, you will see that the >6000 and >7000 spaces are now unprotected. By the way, if you use MY-Word, this is all moot, because it destroys the >6000 bank and GPL then knows to leave it unprotected.

How to Operate etc. by D. R. Fudge

[Ed. Note: This paragraph was inadvertently left out of D. R.'s article in the May, 1988 issue of TopIcs.]

You'll never guess what my next most used program is. It's the popcorn program included on Barry Traver's Diskazine. What popcorn program you say? And just what is a popcorn program, anyway? DEF: A popcorn program is one (usually a game) which, by it's very nature mentally forces you to use it more than once per access. This particular one is called CHAINLINK! It is a solitaire card game version (now enhanced with rapid assembly language routines) which is almost narcotic to this writer. Almost every time I sit down at the keyboard, I will (at some point) load it and play four to six games. I like to think it helps to keep my mind whetted to seek out all the nuances in any situation, and it's very relaxing at the end of the day, before retiring so I don't try to sleep while thinking deep thoughts on my young'uns (hillbilly for children) or nuclear proliferation or exploring strange new worlds and seeking out new life, new civilizations...to boldly go where no one has gone before.

BEGINNING FORTH #3

by Earl Raguse

EDITOR CHANGES

You have discovered by now, I'm sure, that the Editor is not very friendly when it comes to moving the cursor around. There is fix for that which I will give you this month. Why didn't I give it to you last month? Because you will now appreciate it much more than if you had it all along.

The lack of auto repeating keys was the one thing about Forth that bugged me, and I had vowed that, as soon as I understood enough about Forth, I fully intended to modify the Editor to make the cursor repeat. Well, as they say (I don't know why) "All things come to those who wait". I guess I waited long enough because the September 1984 issue of "THE SMART PROGRAMMER" carried Pete Korner's (LA 99ers) revised Editor. The article had Screens #34 thru #38 and a #41. After much study I concluded that the changes occurred on only 3 screens including the new #41 which is included herewith. The other changes are as follows:

Screen #34

Change line 1 to read:

```
( SCREEN EDITOR 09JUL82 LCT) 0
CLOAD RKEY
```

Screen #38.

Add 29 LOAD to line 0

Change line 2 to read:

```
: VED BOX SWAP CLS LISTL ! .CUR
BEGIN RKEY CASE
```

Thats it, except for Screen #41, which just happens to be vacant on the original Forth Systems disk. I recommend that you copy Screens #34 thru #38 from your Forth System disk, make the above edits, add Screen #41, LOAD them (ie 34 LOAD, never mind the "not unique" jazz) and see if it works. If it does you can safely save your screens to your previously made Working Forth disk. Now boot it, FORGET BOX to purge the dictionary of EDITOR, then go through the process of loading -EDITOR ect. as I described last month. Now do a BSAVE as before. Its a JOY! Thank you Pete Korner!

STACK MANIPULATION

A major feature of Forth is that it uses the stack concept for passing values from one part of the program to another. To the uninitiated, (No, I guess I mean BASIC oriented persons) this is sometimes a difficult concept, but it is one of the things that makes Forth fast.

Forth doesn't have to find a variable and then fetch its value, the proper value is always there in the same place, on top of the stack ready to be used. The only problem is that you, the programmer, are the one responsible to see that the value needed is on top of the Parameter Stack or Stack as it is usually called. Forth does have another stack called the Return Stack, where it stores, among other things, the address it will return to after executing a word. When this is the stack in question, it will always be referred to as the Return Stack or RStk if no confusion could result.

This really isn't too difficult a concept to master as we will shortly learn. For those who have not had the opportunity to read STARTING FORTH, the Stack is operated as a LIFO stack. If you can possibly beg borrow or steal that book, please read it, the cartoons really help a lot to understand stacks and Forth operations in general. LIFO means Last In First Out.

One way to envision a LIFO stack is the familiar spring supported plate dispensing stack found in most fast food dinners and resturants. The last plate put on must be the first one taken off. There is another similarity which may seem strange to those familiar with the way memory usually works. The value on top of the stack is not merely Copied, but is Removed. Forth provides a way to compensate for this as well as to access other than the top number on the stack.

How does one put a number on the stack? Just enter one via the keyboard and press ENTER. For a while, I will replace ENTER with <E>, then I will gradually stop doing it altogether, but you know you have to do it. If you want to see the number on the stack, enter .S <E> (Print Stack) and Forth will print the stack to the CRT without disturbing the stack. The right-most value is the top of the stack. Try entering at least three numbers. The Forth word for print is . (dot). If you enter . . . <E> the top three numbers on the stack will be printed to the CRT. Now if you enter .S <E> the top three numbers on stack will be gone, because you used them.

To clear the garbage from the CRT, do CLS <E>. Isn't that easy?! Now, lets learn how to manipulate the stack. First do ABORT <E> then .S <E>, and verify the stack is empty. Enter the numbers 1 2 3 4 just like that, one <E> will do for all, or you may hit <E> after each one. Enter .S to verify that they are there and in that order. Now enter DUP .S and find the the stack has 1 2 3 4 4 on it. Enter DROP .S to find that the last 4 is gone. Now enter DROP again then .S to see 1 2 3. Now enter ROT (Rotate) .S to see 2 3 1. Try ROT ROT .S to see 1 2 3 again. Get the idea? ROT lets you access the third number down in the stack. Now enter OVER .S to see 1 2 3 2. OVER copies (does not remove) the second value down in the stack onto the top. See, that's not so tough.

Later we will write some new words to further manipulate the numbers on the stack when the occasion demands or it seems convenient for us. That's what is nice about Forth, we can change it to be more convenient for ourselves.

Now that we can put numbers on the stack, we need to do something with them, why else put them there. Forth uses what is called Post Fix Notation. This is what most people call Reverse Polish Notation or RPN. The "Polish" refers to a very learned Polish mathemetician, Jon Zukasiewicz, whose name no one could pronounce. He first

used a particular notation to explain logical principles, the method had great merit and became known as Polish Notation, but some, the Italian mathemetian Giuseppe Peano in particulsar, found it awkward and reversed the order of the symbols, thus creating Reverse Polish Notation RPN which has proven to be a very durable expression. The method found found favor among computer designers because it was easier for the computer to store two numbers, then to do the required operation on them. The only problem with it is that humans aren't taught to think that way. Its not very hard to learn however.

INTEGER ARITHMETIC

Lets try some arithmetic. First, we put two numbers on the stack, then say what we want done with them. Enter 2 2 * . to see 4 on the CRT. 10 2 / . should put 5 on the CRT. 3 4 + . should produce 7, and 8 3 - . should give you 5. Now try 8 3 / . to get 2. Whoa, what happened here? Everybody knows that is not the right answer, or is it? It is, when one does integer arithmetic.

Forth does Integer Arithmetic, like any other computer language which does not incorporate a special subroutine to to evaluate fractional remainders when two numbers are not exact multiples of one another. Computers do not inherently do decimal arithmetic, with decimal points and all. Many languages, TI Forth and BASIC among them, provide special programming to handle fractional results with great precision. The TI 99/4A is outstanding in that it has a built in routine which is accurate to about 10 decimal places. Some of the more popular home computers are lucky to produce results accurate to 6 places. Forth does have access to the 99/4As Floating Point Arithmetic (FPA) capability, but it must be separately loaded as we discussed earlier. It does arithmetic very slowly compared to Integer Arithmentic.

If you want a more accurate answer to the problem of 8/3, then write 8 3 /MOD, and Forth will leave both the Quotient and the Remainder (ie the MODulo) on the stack. Try 10 7 /MOD . . to get 1 3 on the CRT.

Integer arithmetic does not usually cause problems when simple arithmetic is all that needs to be done; by techinques to be discussed later, one can get answers as accurate as one needs. However, when one needs transcendental fucntions like logarithims, trignometric functins etc. it is usually best to use FPA. Later, I will show you how to get around this if you need speed and will settle for less accuracy.

LOGIC OPERATIONS

Screen #60 shows some logic demonstation words. Rather than print some examples here, (there are too many combinations) I have written Screen #60 to allow you to test each of the logical operators. Please enter and LOAD this screen, the screen number you use is not critical, since it is not referred to by any other word.

To test the words, put combinations of 1's and 0's (True and False) on the stack (actually any none zero value is the same as a 1) and test each word out after rereading the TIFM Chapter 2 page 3. The thing to learn here is the order in which the numbers are compared. When you can predict the answer for any logic operation on any two numbers on the stack, you have got it made.

The operation NAND (Not AND) isn't a resident Forth word so I created one. Actually this is called "defining", and next time I will cover how to define new words in Forth. In fact, we will be rewriting parts of Forth to suit our selves.

That is about all we can cover this time, so until next time, may the FORTH be with you.

SCR #41

```
 0 ( EDITOR REPEAT KEY ROUTINE Pete Korner 12 3 84 )
 1 BASE->R DECIMAL 0 VARIABLE MY
 2 : BLINK CURPOS @ DUP VSBR MY C!
 3   3 0 DO DUP 30 SWAP VSBW LOOP MY C@ 5 VSBW ;
 4   4 CONSTANT WW ( REPEAT SPEED) 30 CONSTANT XX ( DELAY)
 5   0 VARIABLE YY XX VARIABLE ZZ 0 VARIABLE OK
 6 : RKEY BEGIN ?KEY -DUP BLINK BLINK
 7   IF YY @ 1 YY +! IF ZZ @ YY @ <
 8   IF WW ZZ ! 1 YY !
 9   1 ELSE OK @ OVER = IF DROP 0
10   ELSE 1 DUP YY ! ENDIF ENDIF
11   ELSE 1 ENDIF
12   ELSE XX ZZ ! 0 YY !
13   0 ENDIF UNTIL DUP OK ! ;
14 R->BASE
15
```

SCR #60

```
 0 ( FORTH LOGIC DEMO 4 ZZ 88 EBR )
 1 : OR;  ( n1 n2 ) OR  IF ." TRUE" ELSE ." FALSE" THEN ;
 2 : AND; ( n1 n2 ) AND IF ." TRUE" ELSE ." FALSE" THEN ;
 3 : XOR; ( n1 n2 ) XOR IF ." TRUE" ELSE ." FALSE" THEN ;
 4 : NAND ( n1 n2 ) AND 0= IF ." TRUE" ELSE ." FALSE" THEN ;
 5 : >;   ( n1 n2 ) > IF ." GREATER THAN " ELSE ." NOT GREATER"
 6 :        ." THAN" THEN ;
 7 : <;   ( n1 n2 ) < IF ." LESS THAN" ELSE ." NOT LESS THAN"
 8          THEN ;
 9 : 0<;  ( n1 ) 0< IF ." LESS THAN ZERO" ELSE ." NOT LESS THAN "
10          ." ZERO" THEN ; ( TRUE if top number negative )
11 : 0=; ( n1 ) 0= IF ." TRUE " ELSE ." FALSE " THEN ;
12          ( equivalent to invert ie NOT function )
13 : U<; ( u1 u2 ) U< IF ." LESS THAN" ELSE ." NOT LESS THAN "
14        THEN ; ( ABS comparison )
15
```

ARTIST ENLARGER, A REVILW (OF SORTS)

by D. R. Fudge

"Artist Enlarger is the utility that lets you get more out of TI-Artist and Font Writer." That is a direct quote from the manual (3 pages) that comes with this program.

Do you remember that I once said, "If you ground every cow in Tennessee into hamburger meat, placed a single bone chip in it, thoroughly mixed it up and made a single hamburger patty for me, it would have the bone chip in it."? Well it has happened again. A few months ago I intended to do a review of this program and found I had bought possibly the only buggy copy of the program at the Chicago TI Fair. Well, after much procrastination, I finally sent my flawed copy back to Asgard and received a new one recently in the mail. Would you believe that I now possess the only other flawed copy in the universe? I probably wouldn't either but have had assurance from the folks at Asgard that they have had no other complaints. Oh, well. At least this copy has only three lines messed up instead of half the routines so I'll do a partial review unless I can get it corrected before this goes out for publication.

One must remember that when reviewing a program such as this or Banner (as included on Font Writer) you must have an endless supply of time and printer paper! Artist Enlarger, unlike Graphics Expander, is written entirely in Extended Basic and therefore some of the routines are fairly slow to run. However, those out there who do not have Editor Assemblers or some other direct path into running assembly language programs will find it to be a boon that they did not have before. I had originally intended to have a comparison type review of Artist Enlarger and Graphics Expander, but they are such different programs which do similar things that it would be like comparing apples and oranges.

Artist Enlarger is a very easy program for the average user to run. First you select Extended Basic from the main screen, then sit back and let the autoload start the program for you. After it has finished loading, the title screen (for the program) will appear along with the instruction to press any key to begin. If you are using one disk drive you will want to have a disk with the fonts or instances you wish to modify on it, along with room for the processed files. I assume everyone is like myself and will immediately try to convert many things instead of just one sensible file.

After you press any key you will be looking at a menu with 4 (count 'em) choices. First is the Instances selection which you press if you want to modify a TI Artist Instance. Second is the Fonts selection which you press if you want to modify a Font. Third is the Catalog selection which you press if you want to catalog a disk (It only catalogs those files which are TI Artist Instances or TI Artist type fonts). And fourth is the Exit selection which you press if you want to go back to Extended Basic. A word of caution: The manual says that #2 is to process Instances and #3 is to process a font. THAT IS WRONG! I don't think that will be a real problem though, since all selections are made via the on screen menus.

After selecting what you want to do (and assuming you want to modify an Instance or font) you are prompted to enter the name of the file to process and the file name you want it to be saved to. Then you select (from a menu) whether you want to do a (1) Full Enlargement; (2) a Horizontal Stretch; (3) a Vertical Stretch; (4) a Full Reduction; (5) a Horizontal Squeeze; (6) or a Vertical Squeeze. Each of these will increase the size of the selected process times two, or reduces it to 1/2 its former size. Any of these files can be rerun through the process until the proper size is reached.

Now that we can run the program, let's talk about what it does. The increase selections will result in doubling (or better) the file size so one should be cautioned that it can be easy to create a font too large to load in TI Artist, or an instance that will be cropped in the file save. If one has Graphics Expander it has a program for loading larger than normal size font files for use in TI Artist, but then one wouldn't need to use this program as he would be able to increase the font size to the needed size (assuming it's more than double) in one pass, and would obviously have access to assembly language too. Also, the reduction selections, more or less inversely, half the size of the file (approximately). The fonts I have reduced have come out rather well and can enable superscript size characters on a printer with none otherwise available. Be cautioned however, that due to algorithmic limitations (See, Mike! I can spell that!) some detail can be lost in each reduction until some of the characters are barely recognizable. I haven't reached that point yet on any reductions I have done, but it is possible.

One thing that everyone should be aware of about this type program. If it's written in assembly language it takes slightly longer to complete a conversion than Marie Osmond has been alive. In Extended Basic (and one reason these files are kept to doubling size) you may see Star Trek IV in real life present time before it's done! I exaggerate, of course, but fast it's not. We all console ourselves that this is a process that we're not likely to do but once in a blue moon and will have a file record of the modification. I personally hope that when the Cray 1 drops to around $800 a unit that we can get things like this done much quicker, although if you calculated how many steps the computer made to accomplish this and similar processes you would be amazed that it does these things as quickly as it does. It is not so much the machines being slow that causes this grief as it is that we are demanding so much more of them today through our software and increased expectations of what their capabilities should be.

All in all, for an extended basic program that tries to do what this one does, it succeeds pretty well. It is very simple to run and use and has no frills just to sell itself. Having used Graphics Expander, I do miss having on screen viewing of the font or instance you are trying to modify. This leaves the end result more to the

imagination, but is not a heinous fault in itself. For myself, I would probably choose Graphics Expander, but if you like things very simple and don't have access to assembly language, Artist Enlarger could still save you much time altering or creating your own fonts and instances to fit a particular application.

In the copy of the program that I now possess the horizontal squeeze doesn't work at all because of three lines of code that somehow misplaced themselves on the disk in such a way that the computer cannot read them properly. Even attempting to list them causes a screw up of the computer and video output (Yes, MD they really are beautiful on a color screen (grin)!) I hope that Asgard can tell me what they say soon so I can try that one out also.

I want to mention that the bulk of this review was written on Terrie Master's birthday (It's your 23rd isn't it Terrie?) and I hope it hasn't spoiled it for her too much.

Well, it is time to go try to get my young'uns to bed so I can get some shut-eye too. Just be advised that the word "faints" in Hillbilly means a barrier to keep something in or out such as a picket faints or a "bobbed war" faints.

[Note from Fleet Admiral M'nogsrt: Graphics Expander does include an Extended BASIC loader for those without the Ed/Asm cartridge.]

HIBERNATING FOR THE SUMMER

by Steve Mehr, UG Member

Summertime for some means putting aside the TI for a few months (gasp!) and enjoying the summer weather that Southern California is so well known for. This causes membership attendance to drop for many user's groups in our area, and I believe this is probably true for user's groups in other areas around the country as well. Although this may first appear as attrition, it is only dormancy in the community and many things currently happening won't be apparent for some users until the vacation season is over. Highlights of our last meeting follows.

The Gramulator: The Gramulator is out and in the hands of users. The first production run of 100 was, as of last meeting, 17 shy of being sold out. As of this writing a sell out could be assumed. The device is the brain child of Mark Van Coppenolle who hails from the Boston Area. The device operates like the Gram Kracker and incorporates several enhancements. Anodized aluminum construction, 32k chips, an external replacable battery, and software selectable front pannel switches are only a few of its powerful features. Complete file compatibility with the Gram Kracker is also assured. For those who missed out on the Gram Kracker, this is your chance, so don't miss out again. It is quite a compliment to Craig Miller for someone to continue Craig's dream in our community and I thank Mark for continuing to make available a device which accomplishes this task. Many thanks to Jim Lohmeyer for the great demo. Since Jim is the expert in this area, I hope to find between these pages some words of wisdom from him on this incredible device. For ordering info, please write to:

Mark Van Coppenolle
52 Audobon Rd.
Haverhill, MA 01830
617-372-4336

Jiffy Flyer: The last time I called Rodger Merritt on the phone it was around 8:00 PM one evening and guess what? I woke him up! It seems he had quite a programming session the night before... Wait a minute... Sorry. It was Ray Kazmer, not Rodger Merritt! Anyway, Rodger's schedule is just as crazy and that only means more graphic goodies for us all. His latest, Jiffy Flyer, opens up a whole new graphic arena. Simply stated, Jiffy Flyer is to flyers as Certificate '99 is to certificates. Certificate '99 is great for producing horizontal certificates. Jiffy Flyer produces vertical flyers, just like what you find on your windshield, front door, garage door handle, or see tacked up below the stop sign. With Jiffy Flyer you can easily create flyers for garage sales, lost kittens (sob), house for sale, pet for sale, Commodore 64 for sale (He He), religious announcements, etc. Another quality graphic utility with many, many features including border and font selection (included), graphic selection (included and CSGD compatible), full screen text entry, save to and load from disk, select graphic from disk catalog, and print option. As you can see, Jiffy Flyer fills the gap between producing certificates and flyers, which is the concept the program was designed around and excels at. Rodger, you've done it again! To order please send $10.00 to:

Rodger Merritt
1949 Evergreen Avenue
Fullerton, Ca. 92635
714-990-4577 (operators standing by)

Also shown was a glimps of things to come in the way of how to produce columnar forms with the TI without the use of any form tool! Interested? You bet! I was able to produce an organizational chart for my work including all those fancy boxes needed to put all those not to fancy titles into. And all without using any graphic program of any kind! Stay tuned.

Next meeting's demo: Tom is sharpening up his PR-Base skills for all you database user's, and maybe a few other surprises. Be there!

TIPS FROM THE TIGERCUB

#51

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```
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TIGERCUB CARE DISKS #1,#2,#3 and #4. Full disks of text files (printer required).
No. 1 contains the Tips news letters #42 thru #45, etc. Nos. 2 and 3 have articles mostly on Extended Basic programming. No. 4 contains Tips newsletters Nos. 46-52. These were prepared for user group newsletter editors but are available to anyone else for $5 each postpaid.

I believe this word game is totally different from anything you have ever seen, and very challenging if you don't use the AID key. The first time you run it, pick option 3 to create a file of phrases and give it the file name COMPUTE. This will then become the computer's file, option 1, and you can create as many of your own files as you want. Recommend phrases of several to as many as 20 words - short ones are too difficult.

```
100 DIM W$(20):: DIM D$(20)
110 GOTO 150
120 Q$,K,S,Q,F$,E,FLAG,X,J,X
$,Y$,A,B,M$,DY$,V,A$(),C$,CH
,CH$,Y,W$(),L,M,D$(),F,Z,C,R
,H
130 CALL CHAR :: CALL KEY ::
 CALL SOUND :: CALL CLEAR ::
 CALL CHARPAT :: CALL COLOR
:: CALL SCREEN :: CALL VCHAR
 :: CALL SPRITE :: CALL LOCA
TE :: CALL DELSPRITE
140 !@P-
150 CALL CHAR(94,"3C4299A1A1
99423C"):: DISPLAY AT(2,1)ER
ASE ALL:"TIGERCUB SHUTTLESEA
RCH V.1.1":"":"^ Tigercub So
ftware for free":"distributi
on but no price"
160 DISPLAY AT(6,1):"or copy
ing fee to be charged":"":"I
f you should feel moved to":
"send me a few bucks for my"
:"work, I won't be offended!
"
170 DISPLAY AT(12,1):"Jim Pe
terson":"156 Collingwood Ave
.":"Columbus, OH 43213"
180 DISPLAY AT(16,5):"Instru
ctions? (Y/N) N" :: ACCEPT A
T(16,25)SIZE(-1)VALIDATE("YN
"):Q$ :: IF Q$="N" THEN 260
190 DISPLAY AT(2,1)ERASE ALL
:" The computer will display
 a":"phrase or saying concea
led":"within a grid of rando
a":"letters."
200 DISPLAY AT(6,1):" The wo
rds will be horizon-":"tal,
one word per line and":"on c
onsecutive lines, but":"not
necessarily beginning on"
210 DISPLAY AT(10,1):"the to
p line, and the phrase":"may
 'wrap around' from the":"bo
ttom row to the top."
220 DISPLAY AT(13,1):" You c
an find the phrase by":"shut
tling columns of letters":"u
p and down, looking for":"co
nsecutive rows with letter"
230 DISPLAY AT(17,1):"combin
ations that could be":"parts
 of words.":" A cheat key is
 available,":"if you are rea
lly stuck, but"
240 DISPLAY AT(21,1):"try no
t to use it!"
250 DISPLAY AT(23,8):"PRESS
ANY KEY" :: DISPLAY AT(23,8)
:"press any key" :: CALL KEY
(0,K,S):: IF S=0 THEN 250
260 DISPLAY AT(3,2)ERASE ALL
:"Do you want to - 1":"":" (
1) Solve a saving from my
   file?":"":" (2) Solve a p
hrase from       your file
?"
270 DISPLAY AT(11,2):"(3) Cr
eate a file of":"    phrase
s?":"":" (4) Have someone ty
pe in a      phrase to solve
?"
280 ACCEPT AT(3,19)SIZE(-1)V
ALIDATE(DIGIT):Q :: IF Q<1 O
R Q>4 THEN 280
290 ON Q GOTO 300,310,410,47
0
300 F$="1.COMPUTE" :: E=1 ::
 GOTO 320
310 DISPLAY AT(18,1):"Filena
me? DSK" :: ACCEPT AT(18,14)
:F$ :: E=2
320 ON ERROR 370
330 IF FLAG=1 THEN 350 :: FL
AG=1 :: OPEN #1:"DSK"&F$,FIX
ED,RELATIVE,INPUT :: ON ERRO
R STOP
340 INPUT #1,REC 0:X :: CLOS
E #1 :: FOR J=1 TO X :: X$=X
$&CHR$(J):: NEXT J :: Y$=X$
350 RANDOMIZE :: A=INT(RND*L
EN(Y$)+1):: B=ASC(SEG$(Y$,A,
1)):: Y$=SEG$(Y$,1,A-1)&SEG$
(Y$,A+1,255):: IF LEN(Y$)=0
THEN Y$=X$
```

```
360 OPEN #1:"DSK"&F$,FIXED,R
ELATIVE,INPUT :: ON ERROR ST
OP :: INPUT #1,REC 8:M$ :: C
LOSE #1 :: GOTO 490
370 FOR J=1 TO 10 :: DISPLAY
 AT(20,1):"" :: DISPLAY AT(2
0,1):"CANNOT OPEN FILE!" ::
CALL SOUND(-99,110,5,-4,5)::
 NEXT J
380 ON ERROR 390 :: CLOSE #1
390 FLAG=0 :: INPUT "CHECK D
ISK AND DRIVE, PRESS ANY KEY
":DY$
400 IF E=1 THEN RETURN 260 E
LSE IF E=2 THEN RETURN 310 E
LSE RETURN 410
410 DISPLAY AT(8,1)ERASE ALL
:"Filename? DSK" :: ACCEPT A
T(8,14):F$
420 E=3 :: ON ERROR 370 :: O
PEN #1:"DSK"&F$,FIXED 124,RE
LATIVE,OUTPUT :: ON ERROR ST
OP :: X=0
430 DISPLAY AT(12,1):"Enter
END when finished":"":"":"Ty
pe phrases, not more than 20
 words and 124 characters"
440 X=X+1 :: ACCEPT M$ :: IF
 LEN(M$)>124 THEN PRINT "TOO
 LONG!" :: X=X-1 :: GOTO 440
450 IF M$<>"END" THEN PRINT
#1,REC X:M$ :: GOTO 440
460 PRINT #1,REC 0:X :: CLOS
E #1 :: GOTO 260
470 CALL KEY(3,K,S):: DISPLA
Y AT(12,1)ERASE ALL:"Type a
phrase of less than  20 word
s and press Enter"
480 ACCEPT M$ :: CALL CLEAR
490 DISPLAY AT(3,2)ERASE ALL
:"Choose skill level - 1":""
:" (1) All words begin in":"
      first column"
500 DISPLAY AT(8,2):"(2) All
 words begin in same":"
column":"":" (3) Each word m
ay appear in":"     a differ
ent column"
510 DISPLAY AT(14,2):"(4) As
 No. 3 but AID key is":"
 disabled":"":" (5) Quit"
520 ACCEPT AT(3,23)SIZE(-1)V
ALIDATE(DIGIT):V :: IF V<1 O
R V>5 THEN 520 :: IF V=5 THE
N CALL CLEAR :: STOP
530 DISPLAY AT(12,6)ERASE AL
L:"SCRAMBLING....."
540 A$(1)="jkzae klmpr vqaho
 nceci sdufy bqijw astrf urd
sa nvjxe blbiq trakv nobth w
eney vnijo oherq umbmi rtika
 opleg nosve tarkh zeski "
550 A$(2)="!boiu m.fgt krac,
 pjip? tn-un osheq kar,q ibl
.o tons! idrix ?uhiq ebarf u
ks.k ,,jhge vifyt kibrn taga
, .!ry lakle ilf.! inst"
560 C$=A$(1)&A$(2)
570 FOR CH=65 TO 90 :: CALL
CHARPAT(CH,CH$):: CALL CHAR(
CH+32,CH$):: NEXT CH :: CALL
 CHAR(42,"8244442820101010")
580 CALL CHAR(143,"18243C444
A3C2418"):: CALL COLOR(14,16
,1)
590 M$=M$&" " :: Y=1
600 X=POS(M$," ",1):: W$(Y)=
SEG$(M$,1,X):: L=LEN(W$(Y)):
: M=MAX(M,L):: RANDOMIZE ::
W$(Y)=W$(Y)&SEG$(C$,INT(230*
RND+1),20-L)
610 Y=Y+1 :: IF Y=21 THEN 62
0 :: M$=SEG$(M$,X+1,255):: I
F LEN(M$)>0 THEN 600
620 FOR J=Y TO 20 :: W$(J)=S
EG$(C$,INT(230*RND+1),20)::
NEXT J
630 ON V GOTO 670,640,650,65
0
640 X=INT(RND*(20-M))+M+1 ::
 FOR J=1 TO Y :: W$(J)=SEG$(
W$(J),X,255)&SEG$(W$(J),1,X-
1):: NEXT J :: GOTO 670
650 FOR J=1 TO Y :: X=INT(RN
D*(20-M))+M+1 :: W$(J)=SEG$(
W$(J),X,255)&SEG$(W$(J),1,X-
1):: NEXT J :: GOTO 670
660 ! the string
670 FOR J=1 TO 20 :: FOR L=1
 TO 20 :: D$(J)=D$(J)&SEG$(W
$(L),J,1):: NEXT L :: NEXT J
680 IF V=1 THEN F=M ELSE F=2
0
690 FOR J=1 TO F :: Z=INT(20
*RND+1):: D$(J)=SEG$(D$(J),Z
,255)&SEG$(D$(J),1,Z-1):: NE
XT J
700 CALL CLEAR :: CALL SCREE
N(5):: FOR S=1 TO 13 :: CALL
 COLOR(S,5,16):: NEXT S :: C
ALL VCHAR(1,31,1,96)
710 CALL VCHAR(4,5,143,20)::
 CALL VCHAR(4,20,143,20)
720 FOR C=1 TO 20 :: FOR R=1
 TO 20 :: CALL VCHAR(R+3,C+6
,ASC(SEG$(D$(C),R,1)))):: NEX
T R :: NEXT C
730 DISPLAY AT(1,1):"s&d to
select. e&x to scrollfctn 7
aid, fctn 8 restart"
740 H=1 :: C=48 :: CALL SPRI
TE(#1,42,7,18,C)
750 CALL KEY(3,K,S):: IF S=0
 THEN 750 ELSE ON POS("EXSD"
&CHR$(1)&CHR$(6),CHR$(K),1)+
1 GOTO 750,800,810,820,830,7
60,840
760 IF V=4 THEN 750
770 FOR S=5 TO 8 :: CALL COL
OR(S,16,5):: NEXT S
780 CALL KEY(3,K,S):: IF S=-
1 THEN 780
790 FOR S=5 TO 8 :: CALL COL
OR(S,5,16):: NEXT S :: GOTO
750
800 D$(H)=SEG$(D$(H),2,19)&S
EG$(D$(H),1,1):: FOR R=1 TO
20 :: CALL VCHAR(R+3,H+6,ASC
(SEG$(D$(H),R,1))):: NEXT R
:: GOTO 750
810 D$(H)=SEG$(D$(H),20,1)&S
EG$(D$(H),1,19):: FOR R=1 TO
 20 :: CALL VCHAR(R+3,H+6,AS
C(SEG$(D$(H),R,1))):: NEXT R
 :: GOTO 750
820 C=C-8-(C=48)*8 :: H=C/8-
5 :: CALL LOCATE(#1,18,C)::
GOTO 750
830 C=C+8+(C=200)*8 :: H=C/8
-5 :: CALL LOCATE(#1,18,C)::
 GOTO 750
840 CALL CLEAR :: FOR J=1 TO
 20 :: D$(J)="" :: NEXT J ::
 M=0 :: CALL DELSPRITE(#1)::
 IF Q=1 OR Q=2 THEN 350 ELSE
 470
```

Here are three screen display subprograms of the type you will find on my Nuts and Bolts disks. Note that subprograms can read DATA from the main program. The double colons in the DATA statement cause input of null strings of data for spacing between the lines. The M$() in the subprogram parameter lists is necessary, even though the array is not passed from the main program, in order to DIMension the array in the subprogram - unless you prefer to place the DIM in the subprogram itself. T is the number of DATA items to be read.

```
100 CALL CLEAR
110 DATA THIS IS A DEMO,,OF
THREE SCREEN PRINTING,,SUBPR
OGRAMS PUBLISHED IN,,TIPS FR
OM THE TIGERCUB,,No. 51,,BY
TIGERCUB SOFTWARE
120 DIM M$(11):: CALL DOWNPR
INT(M$(),11):: FOR D=1 TO 10
00 :: NEXT D :: CALL CLEAR :
: RESTORE 110 :: CALL DIAGPR
INT(M$(),11)
130 FOR D=1 TO 1000 :: NEXT
D :: CALL CLEAR :: RESTORE 1
10 :: CALL INWARD(M$(),11)
1000 SUB DOWNPRINT(M$(),T)
1001 FOR J=1 TO T :: READ M$
(J):: L=INT(LEN(M$(J))+.5)::
 M$(J)=RPT$(" ",14-INT(L/2))
&M$(J):: M$(J)=M$(J)&RPT$("
",28-LEN(M$(J))):: NEXT J
1002 FOR J=1 TO 28 :: FOR L=
1 TO T
1003 DISPLAY AT(L,1):SEG$(M$
(L),1,J):: NEXT L
1004 NEXT J :: SUBEND
2000 SUB INWARD(M$(),T):: FO
R J=1 TO T :: READ M$(J):: N
EXT J :: R=1 :: FOR A=1 TO T
2001 L=INT(LEN(M$(A))):: F=1
3-L/2 :: G=L+F
2002 FOR J=1 TO INT(L/2+.5):
: DISPLAY AT(R,F+1):SEG$(M$(
A),J,1);:: DISPLAY AT(R,G):S
EG$(M$(A),L-J+1,1);:: F=F+1
:: G=G-1 :: NEXT J :: R=R+1
:: NEXT A :: SUBEND
3000 SUB DIAGPRINT(M$(),T)::
 FOR J=1 TO T :: READ M$(J):
: L=INT(LEN(M$(J))+.5):: M$(
J)=RPT$(" ",14-(L/2))&M$(J):
: M$(J)=M$(J)&RPT$(" ",28-LE
N(M$(J))):: NEXT J
3001 FOR J=1 TO 28+L :: FOR
L=1 TO T
3002 IF J<L THEN 3007
3003 DISPLAY AT(L,1):SEG$(M$
(L),1,J-L):: NEXT L
3004 NEXT J :: SUBEND
```

Just in case you didn't know - to jump directly to the first or last line in a TI-Writer file, use FCTN 9 and S(earch) and 1 for the first line or E for the last.

MEMORY ALMOST FULL...

Jim Peterson

Did you know that...?

by Chick De Marti

JULY 1988

TI-WRITER TIPS

I had given up on my FORATTER because my printer would skip a page or 3/4 of a page fairly frequently. It happened and then wouldn't which was quite drustrating. I finally discovered that I had to turn my printer off and on before printing each file. The FORMATTER does not reset the printer before each file.

(Thanx to TI-Nova Scosia for this tip. It has happened to me several times. Thanx.)

~~~~~~~~~~~~~~~~

WARNINGDM1000**

This item came to us via the NEW NINTY NINERS of BRITISH COLUMBIA....

Awarning from the OTTAWA User's Group about DM 1000. Please do not use any version above 3.5 as the are potential serious bugs. They recommand using version 3.5 as this is the most stable version right now. They will be releasing ver 4.0 later in the year.

~~~~~~~~~~~~~~~~

From the WEST PENN 99ers...

"STIRPLINE" GENEALOGICAL SOFTWARE LINEAGE CHART is now available. From Alan Cox, 728 Jefferson Blvd.,Tarrant, AL 35217 - phone (205) 849-5592.

"Stirps" is Laten for "Roots". A user-friendly program with error-trapping lets you create - and access - another filename without leaving the program, as you work with six print formats, 9 charts over 7 generations. For up to 511 entries. Very complimentary to the Les and Cindy Cattin's "The Genealogical Workshop", according to author Cox who's been into genealogical records for over a decade. Available as a Fairware distribution with a suggested offering of $15, when you find it's niche in your files. Requirements XB Autoload 32k, Disk Drive and a Printer.

~~~~~~~~~~~~~~~~

And for my fourth item, a FORTH item
Gary Taylor of the PITTSBURGH USER'S GROUP tells us that,

"The hottest thing in FORTH innovations is now available. It's the Forth System that loads into the 8K Supercart Module. Paul Newmeyer of the NorthCoast 99ers in Cleveland Ohio has created the FORTH SUPER-CART DISk. This disk is compatable with FORTH-83. Brodie's 1987 book STARTING FORTH is written fro FORTH-83." ..." you can reach Paul Newmeyer at 290 S. Ridge E. Geneva, Ohio 44041

WARNING!!!

If you have TI's Mini Memory Module, and it no longer works, BEFORE trying to replace the Lithium cell, REMOVE the cell by CUTTING it out!!!

DO NOT APPLY HEAT TO THE CELL!!
CLEAN THE AREA AROUND THE REMAINING SOLDER CONNECTIONS THOURGHL, THE DEPOSITS LEFT BY A LEAKING CELL CAN AND DO EXPLODE!!!

If it were not for my saftey glasses, which I use while soldering, I would be in a hospital emergency room right now! Instead I could just scratch off the now cool solder that splashed on the lens and everywhere. I did cut out the cell but the deposits lalft by the leaking cell exploded, sending solder as far as six feet! Please read and heed this warning! I would like you all to be able to see what you are typing in the future...

This bit of advice from Gerald P.Domroski of QUAD CITIES TI COMPUTER CLUB, Iowa. Thanx

~~~~~~~~~~~~~~~~

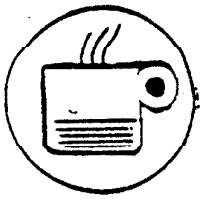
Worth Repeating Department
TI WRITER HINT
C.R. McDonald of TICO TOPICS

My wife does not like the windowing when using the 80 column format, so I have experimented and found that by using the 40 column format, without line numbers and then reformatting each paragraph after prepairing the ducument, there is no need for the window to see what you wrote in the previous paragraph. This is probably not new to anyone else, but I have never seen it as a suggestion.

~~~~~~~~~~~~~~~~

Here three short! routines I found in the Newsletters I thought you might find interesting.

```
90 ! WEIRD SPRITE DEMO
100 CALL INIT :: CALL CLEAR
:: CALL MAGNIFY(4):: FOR B=1
 TO 10 :: FOR A=100 TO 255 :
: PRINT A :: CALL LOAD(-3187
3,-A):: PRINT CHR$(A);CHR$(B
);:: NEXT A :: NEXT B :: GOT
O 100
```
~~~~~~~~~~~~~~~~



(Did You Know ... cont.)

and
```
90 ! RANDOM MUSIC GENERATOR
100 RANDOMIZE :: DEF X=INT(R
ND*7):: FOR B=0 TO 6 :: A(B)
=VAL(SEG$("247262294330349392440",(B+1)*3-2,3)):: NEXT B
 :: B,C,D=X
110 CALL SOUND(-900,A(B),0,A
(C),9,A(D),19):: D=C :: C=B
:: B=X :: GOTO 110
```

These two were found in TI-Focus, Newsletter of CHANNEL 99 U.G., Onterio, Canada

And from Guilford 99er Newsletter, via the Hunter Valley 99er U.G. we have:

```
90 ! NOISES
100 FOR Z=-1 TO -8 STEP -1
110 CALL CLEAR
120 CALL SOUND(1000,Z,0)
130 CALL SCREEN(-Z+2)
140 PRINT "NOISE NUMBER";Z
150 CALL SOUND(1,Z,30)
160 NEXT Z
170 GOTO 100
180 END
```

~~~~~~~~~~~~~~~~

In the OMAHA TI-U.G. newsletter, Richard D. Hurlbut had a column "Did You Know?" from which I picked these Gems for your pleasure.

5. Pictures downloaded from Compuserve (or other boards) I assume), can be converted to TI-Artist using Max-Rle. Max-Rle loads most any format to pic. Then press S to Save pic. The Graphx file comes up first. Pressing the space bar repeatedly cycles you through the five(?) possible formats to save the picture in. The TI-Artist format is the one right after GRAPHX. Type in the filename, press <ENTER>, and the picture will be saved inTI-Artist format; 2 program files, 25 sectors each, one with a _P extension, and one with a _C extension.

6. If you just want black and white pics (for printing out, etc.), you can delete the file with the _C extension, TI-Artist and Max-Rle will still load and print the picture,you just won't have any color on the screen.

8. Using the LOGO II cartridge you can PRINT
OUT the procedures in memory. The name implies that you would use a printer. This would be similar to listing a Basic program to a printer. I wanted to put some of my LOGO procedures in this newsletter so I tried printing them to a disk file. It worked and the file type was DV/80 no matter what I typed in for line length. The line length option is similar to formatted output in a certain column width.

9. If you don't want to go through the menus to get to DM-1000 on Funnelweb 4.0, use a program image loader (EA, Writer Util, etc.) and load "DSK1.MG" (if FW 4.0 is in drive 1 of course) and this will load DM-1000 directly.

10. The LOGO II cartridge seems to be polite. When you type 'BYE' to leave LOGO, the message "and a pleasant day to you" pops up. I always thought that that was the end and you still had to Fctn QUIT to exit. That didn't seem very friendly to me! Well, I found out that if you are patient for about 28 seconds, the "pleasant day" message will disappear and you will be returned to the title screen.

~~~~~~~~~~~~~~~~

PEEK AND POKES
by Barry Ensley
Reprinted from the Computer Voice via KC 99er

```
CALL PEEK(8191,A,B)
```
This PEEK will let you know if CALL INIT has already been executed in you program. It can save you from wiping out any A/L routines you may already have in memory. Try this in your program:

```
10 CALL PEEK(8198,A,B):: IF
A=170 AND B=85 THEN 20 ELSE
CALL INIT
```

```
CALL LOAD(-31962,160,4)
```
If you have a RUN statement in your program, replacing it with this POKE will speed up the restart. Since it will not pre-scan your program the second time.

REMEMBER: WHENEVER POKING OR PEEKING BE CAREFUL NOT TO HAVE A PROGRAM LOADED THAT YOU DO NOT HAVE SAVED. IT COULD BE WIPED OUT!

~~~~~~~~~~~~~~~~

Well, I'm out of coffee. See you next month
Chick
~~~~~~~~~~~~~~~~

E Z * BASICS

by Chick De Marti

EZ-BASIC (5)

I's time to go to work...we've enjoyed our summer vacation, but now it's time for work (or play, depending on if you enjoying these sessions).

EZ-BASICS (4) contains the beginning of a Data Base File. If you saved our last lesson you should have:

lines 100 to 200 The title routine.
200 to 290 A menu, and
1000 on contains our data.

~~~~~~~~~~~~~~~~

OOPS ! There is a small bug in EZ-BASICS (4). If you remember, I had typed:

```
 line 340 READ N
      350 PRINT N,N*5
```

and I showed the result as:

```
      5                25
```

WRONG!
The data line we were reading was:

```
 500 DATA DEAN MARTIN,07/34/27,,24
```

The first 3 fields are strings, so N, therefore would be 24. So the correct result should have been:

```
      24               120
```

~~~~~~~~~~~~~~~~

Now back to our review of last time. We started a brief explanation of the DISPLAY AT routine. Some of the options are: (row,col) Those may be numbers or variables. Examples might be:

```
      DISPLAY AT(5,3)
      @=10 :: DISPLAY AT(@,2)
```

Or within a loop:

```
      FOR R=4 TO 14 STEP 2
      DISPLAY AT(R,5):"Hello"
      NEXT R
```

And as I mentioned in our last lesson:
ERASE ALL does a CALL CLEAR, but faster. Sometime instead of CALL CLEAR try: DISPLAY ERASE ALL
(NOTE: no row,column needed!)

The BEEP can be used almost anywhere! Exams. DISPLAY BEEP

```
      IF X=5 THEN BEEP
```

The SIZE option creates some interesting effects. Try this:

```
 10 DISPLAY AT(23,1)ERASE ALL
 :"Press ANY key to continue"
 20 FOR REPEAT=1 TO 10
 30 DISPLAY AT(23,7)SIZE(3):"
 key"
 40 FOR DELAY=1 TO 50 :: NEXT
  DELAY
 50 DISPLAY AT(23,7)SIZE(3);"
 KEY"
 60 FOR DELAY=1 TO 50 :: NEXT
  DELAY
 70 NEXT REPEAT
```

By using a SIZE(3) you are are to PRINT (3 digits) within a line, without erasing the balance of the line. Now try:

```
 80 DISPLAY AT(15,2):"Want to
  see it again (Y/N)"
 90 ACCEPT AT(15,24)SIZE(-1):
 YN$
 100 IF YN$="Y" THEN 20 ELSE END
```

Here the SIZE(-1) will only ACCEPT one key stroke, and the minus sign allows the "Y" to sill be viewed beneath the cursor, as the program waits for a key stroke. After you have RUN the program change the "-1" to "1" and see what happens. (More about ACCEPT AT later.)

NOW...BACK TO OUR ORIGINAL PROGRAM!
Load our program...the enter:

```
 300 ACCEPT AT(14,5)SIZE(-1):
 CHOICE
 310 IF CHOICE>4 THEN
 320 ON CHOICE GOTO 400,600,8
 00,330
 330 DISPLAY AT(11,11)ERASE A
 LL:"THE":TAB(11);"END"
 340 END
```

Line 300 places the cursor on top of the "1" (but will not erase it). With the "-1" tech- nique, just press <ENTER> to choose "1" on the menu. TI will read the "1" from the screen.

Line 310 will BEEP if you try to enter a number higher than 4.

Line 320 introduces you to ON - GOTO.

This routine looks for a variable, in this case CHOICE becomes the variable we need. It say, "if CHOICE is number 1 then GOTO number 1 on the GOTO list (in this case line 400). Or if CHOICE is #2 then GOTO the line at GOTO list #2 (line 600), etc.

To see how this routine works enter these lines:

```
400 DISPLAY AT(22,8):"Find a
 file " :: GOTO 300
600 DISPLAY AT(22,8):"Print
a List " :: GOTO 300
800 DISPLAY AT(22,8):"Sort t
he List" :: GOTO 300
```

DISPLAY AT takes a little more typing than "PRINT", however it's worth the effort for the control you have over the display. Play around with what we have done so far. Get familiar with the ON - GOTO routine. When you are satisfied that you understand the routine...we'll get on with the program.

(Notice the clever use of ":TAB(11)" to PRINT the 2nd line of text in line 330!) but on with our program. Change line 400:

```
400 DISPLAY AT(3,8)ERASE ALL
:"Find a File"
410 DISPLAY AT(10,2):"Enter"
last name"
420 ACCEPT AT(10,18):FIND$
430 RESTORE
440 FOR I=1 TO 100
450 READ NAME$
460 IF NAME$="ZZZ" THEN 510
ELSE READ DATE$
470 P=POS(NAME$," ",1)
480 LAST$=SEG$(NAME$,1,P-1)
490 IF FIND$=LAST$ THEN 530
500 NEXT I
510 DISPLAY AT(14,2):"Name n
ot found..." :: GOTO 550
520 !
530 DISPLAY AT(14,3):"Match
= ";NAME$
540 DISPLAY AT(15,2):"Birthd
ay ";DATE$
550 DISPLAY AT(17,2):"Anothe
r one (Y/N)"
560 ACCEPT AT(17,15)SIZE(-1)
:YN$
570 IF (YN$+"Y") OR (YN$="y"
)THEN 400
580 GOTO 240
```

Lines 400 to 420, you should be able to figure out, and line 430 RESTORE. remember, thsi reminds READ to start at the FIRST line of data.

440 .. The number 100 can be any number, be- cause we have a way out of this loop (see line 460).

450 .. We read the 1st field (NAME$).

460 .. If this field = "ZZZ" then we've reached the end of the data file...GOTO 510 ("Name not found...") ELSE it's O.K. to read the 2nd field, the birthday.

470 - 480 Pull the last name out of NAME$.

490 .. If your request is the same as the last name "THEN GOTO 530" (the PRINT routine)

530 - 540 Prints the name and birthday of the person you were looking for.

550 - 580 Need no discussion.

Well this ought to be enough to chew on for the month. Study the explanations, run the program...and next month we'll continue with the other options on our Main Menu. Till next time...enjoy yourselves

By the way, if you haven't seen this hint before, try it you'll like it! Enter:

```
1 ! SAVE DSK2.EZ/LIST
```

This assumes you will name this program "EZ/LIST" and you want to save it on DSK2. Now any time you want to SAVE what you have written so far, type 1 and press FCTN E. This will bring line 1 to the screen. Press <ENTER> and then FCTN 8. Line 1 will reappear but with the cursor over the 1. Now use FCTN 1 to DELET "1 !" and press <ENTER>. From now on, you will automatically save the program under it's proper name. Neat huh?

-*- chick -*-

TELECOMMUNICATIONS

BBS'ing by Danny NElson
SysOp LA99er TI-WORLD BBS

Since our last time together many things have changed on the BBS (both of them). Most changes will not effect your accessing of the board a great deal. The major change will be that if you have never signed on before, you will not be allowed to do anything until I validate you. But! Not to worry. You will be validated within 24 hours (I guarantee!).

ITEM #1

PC-Pursuit, has opened up all of the Orange County outdial nodes (Outdial, means that you can call on PC-P to BBS's in O.C.). For those of you that do not know about PC-P, it is a package switching net work that allows you to call any BBS or modem in anyone of its outdial areas. Across the street or across the country makes no difference, as long as it is a PC-P out-dial (area) and a modem answers on the other end. Sorry, NO VOICE!

Let me digress for a second, PC-P has done more to keep the TI alive than any other single group, without knowing it. It tied the TI community together. No longer do you have to wait until you get the news in the MICROpendium or the clubs newsletter. Just hookup your modem, dial a local number to tie you into the network and call any BBS in the country (there are over 200 TI-BBS's, that I know about. And MORE comming!). Also an endless number of IBM etc. BBS's, out there with every type of information your little hearts can desire! If you really want to know what it is all about and to learn how to use your computer to its best advantage. Then get on PC-P and get a computer high (wheeeeeee!).

The neat thing about PC-P, is that you can call every week day, Mon-Thur, from 6 pm to 7 am, Fri, 6 pm to Mon 7 am, also 5 holidays per year (NEWS YEARS, JULY 4TH, LABOR DAY, THANKSGIVING, and CHRISTMAS), from 6 pm the day before to 7 am the day after. All of this is for a flat rate of $25.00 per month. As I said before the only limits on your calling is the hour of day and the citys that you can call. But I am sure there are enough cities (34 major cities and their surronding areas) and enough hours to keep you busy for quite a while.

ITEM #2

This BBS, thanks to Ben Hatheway,SysOp of the O.C.U.G. 99BBS who, by the way, can now be reached on PC-P. Phone # 714 (or CASAN if you are already a PC-Per), 751 4332. He is running at 3/12/2400 bauds, 24 hours a day. Ben is the type of person that is never happy with a program until it works as smooth as the fur on a cats back! That is what he has done with this program, and has not stopped as of this writing. This is not the order in which the changes were made but I will tell you some of them.

1 .. You no longer have to answer Y/N, to the question ANSI Graphics? The BBS program will know if you have Telco or ProCom ANSI turned on in your terminal program, an then run the appropiate of one of two title screens. This can be aborted by pressing the letter "S".

2 .. All areas that you are allowed to enter text (Message Base, descriptions of programs being uploaded to the board by you, etc....), now have WORD WRAP after 80 columns. SO! Just keep typing. Don't worry about the <ENTER> key at the end of a line!..... A fun thing to do, is to call the board at 300 bauds and type in a message and some place around the 60 char or there abouts, type in a string of about 25 letters or numbers with no spaces and you will see it backspacing to the last space. But keep on typing and it will also add what you have typed to the end of the string that it was moving. Try it!!

3 .. If you call as many BBS's as I do, one of things that you have seen at one time or the other, is a long group of messages marked PRIVATE or DELETED. This should not be on a public message base. It takes up time, and if you are spooling to a printer or disk, it takes up paper and/or space. WELL! That has been changed. Now if a private message is not addressed to you or from you, you will not know it is there! (Unless you start checking message numbers). That also goes for "Deleted" messages.

(BBS'ing CONTINUED)

My first thought was to take out all the private messages, but there again it is the closest thing we have to E-Mail. The only differents between them is that, with E-Mail, it will stay there until it is collected and/or deleted my the addressie or sender. This base has a revolving, incrementing message base. What that means is, once it gets to, say 100, the next message, 101, will overwrite message #1 and so on.

I know last month I said that I would walk you thru some of the sub menus. But the more I thought about it, That would be the wrong thing to do. The best way is for you to call the board. and make all of the mistakes that I and all other 1st time and not so frequent callers have made in the past.

On most boards (not just this one) you can learn:

Programming (EXB,A/L,PASCAL,FORTH, etc..). You can get information on how to convert your computer, modules, and your programs etc... all from the movers and the shakers of the TI-99/4a and Geneve 9640 by Myarc. The message Bases on the BBS's around the country, have information on anything you can think of. It may take a little looking and a lot of reading, but it is there! All for the price of a telephone call.

Next month I hope to have the new list of TI BBSs' complete. I am trying to find out how many there are out there that we have not been able to call on PC-Pursuit, before the new cities were opened the end of last month.

So until next time. KEEP ON BBS'ing.

Later.....Danny SysOp LA99ers' U.G
TI-World BBS
213 755-3074
8N1 300/1200

An Important Reminder

FALL-4-A-SHARE-FAIR Update Aug.10th 1988

Eight of the southern california TI Home Computer Groups are having a get together. on Sunday, October 9th 1988 from Noon to 5 P.M. We sincerely hope you will attend. It will be a chance to: get some information, share software, chat with other User Group Members, swap hardware and software (trade, buy, sell) and have a picnic lunch in the shade. Just bring any programs and hareware you want to share,swap or sell. You might also bring a large towel or blanket and relax on the grass. There will be a fully stocked soft-drink table. We will also have:

Commercial enterprises: software and hardware. Currently participating are: DataBioTics, Corcomp, Texcomp,Comprodine, T.A.P.E. Ltd., L.A.Group's Marketplace, and Data Depot (supplies).

Freeware Prograa Disks: will be available to you and some clubs will bring their Public Domain software libraries for you to choose from.

Consignment Table: Leave the item we'll sell it for you (minus 10%)). There will plenty of used items available.

Many product catalogs and flyers will be on hand, and plenty of MICROpendiums.

Win free products with the many raffles to be held, and perhaps win the door prize!

We could use some helpers. At the present we have: Rodger Merritt + ? Help hand out soft
Chick De Marti + ? Consignment Table.
Jim Swedwow plus ? Help with raffles.
and we will need 1 clean-up person per club.

If you have any questions or suggestions contact your committee member (see last months TopIcs). or call me:
Bill Harms...714-628-1334 Evenings.

FREE Admission and Parking FREE

* FALL-4-A-SHARE-FAIR *

Date : Sunday, October 9th, 1988
Time : 12 noon to 5 P.M.
Place: BACK Community Bldg. Rm 7
201 North Bradford Ave.
Placentia, CA 92670
(North side of CHAPMAN, No. of 91 and East of 57

FUN * SWAP-MEET * PRIZES * PARK

```
10 CALL CLEAR
20 DIM A(10),B(10)
30 FOR TONE=1 TO 10
40 READ A(TONE),B(TONE)
50 NEXT TONE
60 DISPLAY AT(5,6):"TELEPHONE TONES"
70 DISPLAY AT(6,6):"By Chick De Marti"
80 FOR I=1 TO 7
90 DISPLAY AT(10,2):"Enter digit";I;" phone Num."
100 ACCEPT AT(10,27)SIZE(1)BEEP:N(I)
110 N$=N$&STR$(N(I))
120 DISPLAY AT(14,10):N$
130 NEXT I
140 DISPLAY AT(22,2):"Press any key to listen to":" the telephone tones."
150 CALL KEY(0,K,S):: IF S=0 THEN 150
160 FOR I=1 TO 7
170 T=N(I):: IF T=0 THEN T=10
180 CALL SOUND(100,A(T),0,B(T),0)
190 FOR DELAY=1 TO 25 :: NEXT DELAY
200 NEXT I
210 DISPLAY AT(22,2):"Press <SPACE> for another":TAB(7);"<ENTER> to repeat"
220 DISPLAY AT(24,2):"  or ""Q"" to quit"
230 CALL KEY(0,K,S):: IF S=0 THEN 230
240 IF K=32 THEN N$="" :: CALL CLEAR :: GOTO 60
250 IF K=13 THEN N$="" :: GOTO 160
260 IF K<>81 THEN 230
270 CALL CLEAR :: END
280 DATA 1209,697,1336,697,1447,697
290 DATA 1209,770,1336,770,1447,770
300 DATA 1209,852,1336,852,1447,852
310 DATA 1336,941,0,0
```

(— Updated JULY 1988 —)
99er CLUB MEETING IN AREA

Brea User Group: 1st Monday (7:30) at Mercury Savings and Loan Harbor and Imperial, Whittier - Ken Hamai or Roger Merritt

CLUB 99 U.G.: 1st and 3rd Mondays 7:30 at Church of Good Shepard 1551 E. Old Badillo Ave.,Covina - Larry Hoffman 818-399-6061

EL TORO 99 UG 2nd Saturday 9:00 A.M. at Mercury Savings and Loan I-5 and Lake Forest, El Toro - Phil Barnes 714-770-2067

Los Angeles 99ers 4th Wednesday 7:30 at N. Torrance Public Library 3031 Torrance Blvd., Torrance - Terrie Masters 213-271-6930

Orange County U.G. 1st Thursday 7:30 at Mercury Savings and Loan 7812 Edinger, Huntington Beach - Knute Ersland 714-842-0859

Oxnard Area TI 99/4A U.G. 1st Wednesday 7:30 at Red Baron Resturant Ventura County Airport . . . . . call 805-984-3391

Pomona Valley 99ers 2nd Monday 7:00 at Pomona First Fed. S & L 9900 Central Ave, Montclair - George Dearman 714-627-3403

Riverside TI Users Group 3rd Thursday 7:00 contact Ed Butcher at 714-686-0336

San Fernando Valley 99ers 2nd Wednesday 7:30 at Sherman Oaks Hosp. contact Jim Edwards at 818-248-9558

Tri-valley 99ers 4th Friday 7:30 at Casa de la Senda Lounge Cabrillo Ave., Newberry Park - Greg Mc Gill 805-498-0198

TI TIPS

compiled by Bill Gaskill

Have you ever accidently erased a program line in an XB program you were editing? If it does happen to you, you can recover the entire line by simply forcing a syntax error before moving from the line that was erased. For example, after I realize that I have hit Function 3 (ERASE) accidently, or did it intentionally but on the wrong line of code, I simply put in a single quote mark (Function P) and then press <ENTER>. The single quote causes a SYNTAX ERROR message to be displayed and the accidently erased line reappears because the changes made to it were not syntactically correct, thus not acceptable by the XB line editor.

Ever want to have some arrows included in you Basic or XBasic program? Try these;

Right arrow: CALL CHAR(###,"080C0EFFFF0E0C08")
Left arrow : CALL CHAR(###,"103070FFFF703010")
Up arrow : CALL CHAR(###,"183C7EFF18181818")
Down arrow : CALL CHAR(###,"18181818FF7E3C18")
Back arrow : CALL CHAR(###,"02022262FEFE6020")

or how about a new copyright symbol?

Copyright : CALL CHAR(###,"7E818DA1A1B0817E")

If you are an owner of the Triton/MG Super Extended Basic module you will probably appreciate knowing that SXB has a marvelous feature in it called CALL RUNPROG. The instructions on it are tucked away on page 14 of the SXB appendix to the manual that comes with the module. The information is only a single paragraph long and it gives you the format for using the statement; CALL RUNPROG(device name, program name). What it does not tell you is that CALL RUNPROG will also RUN variables.

For example, if you designed a short program to define names for a menu the names could be saved in an array, NAME$() for instance. The CALL RUNPROG command could be used to RUN NAME$(1) or whatever as long as the variables in NAME$() translate to DSK#.PROGRAM, where the pound sign is the number of the disk drive to access and PROGRAM is the name of the program you want to RUN.

Ever wished that you knew the value of the various keypresses available on the TI? Here's a chart of them.

[See chart at end of article - Ed.]

If you are interested, here is the program that I used to explore the keyboard in the normal and Pascal modes listed above. To use it for Pascal I just changed the zero in the CALL KEY command in line 120 to a four. The CALL LOAD in line 100 is only there to disable the Quit Key so that it could be tested. The ON BREAK NEXT was used so that I could test the Break Key. The ELSE IF K=13 allowed me a way out of the program so that I could change from normal to Pascal modes without turning the computer off, since I had disabled both the Break and Quit keys.

```
100 CALL INIT :: CALL LOAD(-31806,16)
110 CALL CLEAR :: ON BREAK NEXT
120 CALL KEY(0,K,S):: IF S=0 THEN 120 ELSE IF K=13
THEN STOP
130 PRINT K;S
140 GOTO 120
```

Did you ever get frustrated with the pre-set budget categories in TI's Household Budget Management module? It's not bad enough that the program limits you to only 34 accounts, too often the ones they have don't fit your situation. Well, there's some hope. If you have GramKracker and 32K memory you can use the memory editor to change the categories to say anything that you want.

While you are still limited to the number of spaces that each existing account description contains, you can pick out any of them or all of them for editing. Then when you boot up the program in GK you get the accounts that YOU want, instead of having to settle for what TI gave you. Here's how it's done.

1. Load your HBM program into into GK and then select 1 for GramKracker.

2. When the menu appears press 5 to Edit Memory.

3. When the memory editor window appears press Fctn 1 to go to the Grom/Gram window.

4. Press Fctn zero for to enable basic bias or you will not be able to see the text for the category descriptions.

5. Type the numbers 8FAA so the address changes to g8FFA. The beginning of the category text will appear.

6. Flip the Write/Protect switch to Bank 1 or 2.

7. Press Fctn 9 to enter the edit window and then use the arrow keys to move to the categories you want to change.

8. Make the desired changes by simply typing over the names that are there. Make sure that you retain the original number of spaces used by the orininal description.

9. When you are done with the changes press Fctn 9 to exit the memory edit window and then Control = to exit the memory editor.

10. When the GK menu returns press 2 to save the module with the changes made. That's it!

Key	Function	Control	Shift	Open	Pas-Fn	Pas-Ct
ENTER	13	13	13	13	13	13
Spacebar	32	32	32	32	32	32
!	3	177	33		131	177
AT sign	4	178	64		132	178
#	7	179	35		135	179
$	2	180	36		130	180
%	14	181	37		142	181
Caret	12	182	94		140	182
Ampersand	1	183	38		129	183
*	6	158	42		134	30
(	15	159	40		143	31
)	188	176	41		188	176
+	5	157	43		133	29
1	3	177		49		
2	4	178		50		
3	7	179		51		
4	2	180		52		
5	14	181		53		
6	12	182		54		
7	1	183		55		
8	6	158		56		
9	15	159		57		
0	188	176		48	188	176
=	5	157		61	133	29
A	124	129	65	97	124	1
B	190	130	66	98	190	2
C	96	131	67	99	96	3
D	9	132	68	100	137	4
E	11	133	69	101	139	5
F	123	134	70	102	123	6
G	125	135	71	103	125	7
H	191	136	72	104	191	8
I	63	137	73	105	63	9
J	192	138	74	106	192	10
K	193	139	75	107	193	11
L	194	140	76	108	194	12
M	195	141	77	109	195	13
N	196	142	78	110	196	14
O	39	143	79	111	39	15
P	34	144	80	112	34	16
Q	197	145	81	113	197	17
R	91	146	82	114	91	18
S	8	147	83	115	136	19
T	93	148	84	116	93	20
U	95	149	85	117	95	21
V	127	150	86	118	127	22
W	126	151	87	119	126	23
X	10	152	88	120	138	24
Y	198	153	89	121	198	25
Z	92	154	90	122	92	26
|	124	129				
`	96	131				
{	123	134				
}	125	135				
?	63	137				
'	39	143				
"	34	144				
[	91	146				
]	93	148				
_	95	149				
=	186	187				
~	126					
\	92					
/	47					

LA99 LIBRARY CORNER

Copies Of all program disks will be made available to the members at the regular meetings. If you plan to obtain any disks from the library at the meeting it is best to phone or write the LIBRARIAN **in advance** to be sure they will be on hand. I will put your name on them. Disk cost $3.00 4 for $10.00

0000A/B **LA99 DISKS LIBRARY CATALOG** JUNE 88 : #1.00

0000C/D **LA99 PROGRAMS LIBRARY CATALOG** JUNE 88 : $1.00

NEW ADDS FOR AUGUST LA99 LIBRARY

The Library Committee wish to give thanks to those who donated disk to our Library this month : Danny Nelson, Chick Demarti

2651 **QUAD LISTER V4.3** Fairware by Herman Nieumendaal 4715 Fox Hunt Dr. Tampa, FL 33624 Updated version of a Disk Catalogs for Axiom, Epson, Gemni, Impact, Okidata Prints up to 4 disk catalog side by side. Has a (V)iew option, (H)elp option, 132 column, merge ,file comments and many more items SSSD(161)

2652C **TELCO ADD** More information on Telco that will not fit on TELCO 2.1 disk. A reference card that gives available funtions in the Editor, Marco Editor and Disk Editor mode. An additional modification to Telco to insert your ID and password. TOS/PHONE, TELCO PRINT, TELCO SORT, TELCO PCP, TELCO INSTRUCTION, plus 3 suporting programs for TELCO. SSSD(181)

2664 **MARCO ASSEMBLER** Fairware bu R.A.Green 1032 Chantenay Dr. Gloucester, Ont Canada, K1C 2K9 A Library of general purpose Marcos that will help reduce the number of lines of codes you must write. Plus several files subroutines. SSSD(357)

2837 **DSKU 4.1** Fairware by John Birdwell 7052 Springhill Circle Eden PRARIE, MN 55344. An updated disk of FILE UTILITY, DISK MANGER, DISK UTILITY, SECTOR UTILITY, now System Setup and FW load. SSSD(111)

6047 **CREATIVE FILING SYSTEM** V7.0 Fairware by Mark Beck 166 Delaware Circle Jacksonville, AR 72076. This is an excellent data-base manager system to create, search, add, change, delete, sort, etc. This updated version has been changed so great there are to many changes to print here. Read the DOCS and his user group is using it as a fund-raiser, so be sure to send a monetary contribution. The changes has been made from one SSSD disk to 3 SSSD disks total 907 sectors.

9082 **GAMES #60** 7 action games written in assembly language (E/A): BERLIN, BREAKTHRU, BUZZARD, D-STATION (game), MACROMAN, SHAPES, TRAPPER. Use Editor Assenbler Module SSSD(281)

9083 **GAMES #61** 7 Adventure games : ADULT, DAYS, DOORS, IRONHEART, JUNE, LOOSE, LOSTGOLD. Must use Adventure Module to run. SSSD(349)

LIBRARIAN FRED MOORE 7730 EMERSON AVE. LOS ANGELES,CA 90045 213-670-4293

NEW LA99 GENEVE 9640 LIBRARY

The Library Committee would like to thank those that donated a disk to our GENEVE Library this month : Danny Nelson, Jim Lohmeyer.

MOUSE ROUTINES by J. Peter Hoddie is a set of Extended Basic routines to control sprite #1 with MYARC's mouse. You can even check to see if any button is clicked. And a demo program to show you how to use the routines in your program. SSSD(36)

PALETTE MASTER BY Jeff Kittka is an Extended Basic program with an A/L subroutine that lets you edit the internal color palette. Also allows you to save or load a color palette data to disk, and print current color data to printer. Included are several color palletes. SSSD(67)

CIRCLES by Joe Syzdek is source code for two programs that create circles in MDOS mode. And also a demo for MDOS. And a Basic version for MYARC's XBII. SSSD(77)

MENU by E. Hallett is a set of files that is designed to inform and instruct you to design menus in MDOS and GPL modes. SSSD(279)

QD PROGRAMS by Clint Pulley - QDA V1.3 is FAIRWARE, QDA loads,patches, and executes the TI-99/4A assembler(V1.2) as supplied with the Editor/Assembler package. QDE is a TEXT editor(not a word processor) which is good for source program entry. QDL V2.Ø is a LINKING LOADER that loads object files into memory and saves it as a program image file. All 3 of these programs load from MDOS mode. SSSD(241)

DEBUG by Al Beard is a debugger for the GENEVE under MDOS. Operates similar to TI-99/4A debugger. SSSD(16)

GIF2 FAIRWARE by Paul Charlton is a GIF(Graphics Interchange Format)file translator. You can view GIF or My-Art pictures. You can also shift picture left or down so as to center it. After you have it centered you can Msave it to disk in My-Art format. Several pictures included. SSSD(236)

XOP DOCS, EQUATES AND LINK. Link is FAIRWARE by Paul Charlton, 1599 Tibbits Ave. Troy, New York 12180-3723 is a loader that loads your object files and saves them as program image files(MDOS). XOP Docs are also from Paul Charlton. the docs explain how to use the XOP routines in your MDOS programs. The equate files are from Al Beard, you can include these files in your program and access the XOP's. SSSD(316)

RLE2 FAIRWARE by Tom Wynne 16223 70th. pl. w. Edmonds, WA. 98020 is a program that translates RLE picture files into My-Art format. Several RLE pictures are included. SSSD(164)

GENEVE LIBRARIAN JOHN BOHLIER 18222 TOWNE AVE. CARSON,CA. 90746-1835 323-0947

MARKETPLACE

(the marketplace is a fund raiser for the club, that is, the "profit" goes to maintain the quality of this Newsletter. In general the price listed splits the difference between cost and retail. Please help your Club.)

SPECIAL - SUPER EXTENDED BASIC by Triton - code by MG & friends 50.00
plus P&H 2.50

SPECIAL #2 - WE HAVE THREE HORIZON RAMDISK, DIFF.CONFIGS - CALL FOR PRICES

MILLERS GRAPHICS

DISKASSEMBLER	18.50	ORPHAN CHRONICLES (PRICELESS)	9.95
ADVANCED DIAGNOSTICS	18.50	NIGHT MISSION	18.50
GK UTILITY I	10.00	SMART PROGRAMMING FOR SPRITES	6.25

GENIAL COMPUTERWARE

XBasher (MIKE DODD)	9.00	XB:Bug (J.PETER HODDIE)	12.00
GRAM PACKER (JPH) "	9.00	REMIND ME! (JOHN JOHNSON)	12.00
PC TRANSFER (MD)	20.00	FONT PACK I (JPH)	9.00
GRAPHICS EXPANDER(JPH)	9.00		

RYTE-DATA

GPL SETS (INCLUDING ASSEMBLER AND LINKER, 4 DISKS	50.00	COMMAND DOS (MONTY SCHMIDT)	20.00
		TECHNICAL DRIVE(BOOK BY ")	15.00
BASIC COMPILER	15.00	SUPER CLOCK SUPPORT	13.50

BYTEMASTER (R. MITCHELL)

MG EXPLORER (UNPROTECTED)	20.00	STRINGMASTER	16.00
KRACKER FACTS (MIKE DODD, ED.)	5.00	UTILITIES DISK/DOCS (T FREEMAN)	8.00
ORPHAN SURVIVAL HNDBK(ALBRIGHT)	15.00	JOYPAINT	30.00
JOYPAINT PAL	7.50	CERTIFICATE 99	20.00
FONT WRITER II (JPH)	19.00	PRE-SCAN IT! (J.PETER HODDIE)	10.00
TPA FONTS DISKS 1 OR 2	9.50	PRINTER'S APPRENTICE (M.McCANN)	19.00
TPA AND FONTS DISK 1(SET)	26.50	TPA TOOLBOX	19.00
PICTURE-IT (RODGER MERRITT)	10.00	CLASS (SXB PROGRAM)(BILL HARMS)	10.00

MYARC PRODUCTS, INCLUDING GENEVE - check for discount prices

INSCEBOT

TI-ARTIST	15.00	DISPLAY MASTER	12.00
TI-BASE	20.00	ARTIST EXTRAS	6.00

MEGATRONICS

EXTENDED BASIC II PLUS	72.50	INTERN (BOOK ON GPL)	16.50
128K GRAM CARD	227.50		

HARDWARE & SUPPLIES

TEAC 55BV DSDD DRIVES	90.00	DISKETTES DSDD	.50
TECHNICAL AND BUSINESS BOOKS	5.00		

REPRINTS

HANDY REFERENCE GUIDE	2.50	LOGO DIGEST	2.50
BEST OF NEWSLETTERS W/DISK	5.00	FORTH NOTES VOL 1-6 (2.50 EA)	10.00
BEGINNER'S FORTH NOTEBOOK	2.50	ASSEMBLY NOTES VOL 1	2.50

BACK ISSUES

SMART PROGRAMMER MISC. SET OF 8	4.00	MICROPENDIUM	1.25

(please send your order to the CLUB address, not the Librarian, and add $1.00 per item for P & H ($2.50 for Super XB). CA residents add 6.5% tax).